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In the Claims

1-2 (Cancelled)

3. (Previously Presented) In a scanner including a CPU, a memory, a linear sensor array, and first and second spaced-apart 2D sensor arrays serving as motion encoders, the CPU serving to process raw scan data collected by the linear sensor array from an imaged object into final scan data in accordance with scanner motion data provided from said 2D sensors, an improvement comprising software instructions in the memory causing the scanner to discern a machine-readable identifier from scan data acquired from the object, wherein said software instructions cause the CPU to process data from the 2D sensor arrays for a purpose in addition to sensing scanner motion.

4. (Original) The scanner of claim 3 in which said purpose includes beginning a watermark detection process before data from the linear sensor array is finally processed.

5. (Original) The scanner of claim 4 in which said purpose includes beginning to sense a watermark calibration signal.

6. (Original) The scanner of claim 3 in which said purpose includes identifying portions of the data collected by the linear sensor array that are relatively more likely to include detectable identifier data.

7. (Previously Presented) The scanner of claim 3 in which said purpose is to quantify an object surface characteristic, wherein a filter can be applied to said scan data in accordance therewith.

8. (Original) The scanner of claim 3 in which said purpose is to assess relative distance to the object from different portions of the scanner.

9. (Previously Presented) The scanner of claim 3 in which said purpose is to quantify an affine distortion in the scan data, so that compensation may be applied therefor.

10. (Previously Presented) In a scanner including a CPU, a memory, a linear sensor array, and first and second spaced-apart 2D sensor arrays serving as motion encoders, the CPU serving to process raw scan data collected by the linear sensor array from an imaged object into final scan data in accordance with scanner motion data provided from said 2D sensors, an improvement comprising software instructions in the memory causing the scanner to discern a machine-readable identifier from scan data acquired from the object, wherein said identifier is steganographically encoded as a digital watermark.

11-12 (Cancelled)

13. (Previously Presented) In a scanner comprising a multi-element sensor array, a memory, a CPU, and a visual output device, the scanner producing scan data from signals provided from the sensor array, the memory including program instructions causing the CPU to control the visual output device, at least in part, in accordance with information decoded from the scan data, an improvement wherein the program instructions further cause the CPU to:

employ a first technique to examine said scan data for the possible presence of steganographic watermark data; and

if such possible presence is found, employ a second technique to attempt to decode plural-bits of steganographic watermark information from said scan data.

14. (Currently Amended) The scanner of claim 13 in which the first technique comprises examining said scan data for the presence of a calibration signal **by which information about the scale or rotation of steganographic watermark data can be determined.**

15. (Previously Presented) The scanner of claim 13 in which the first technique comprises examining a frequency content of said scan data.

16. (Previously Presented) In a scanner comprising a multi-element sensor array, a memory, a CPU, and a visual output device, the scanner producing scan data from signals provided from the sensor array, the memory including program instructions causing the CPU to control the visual output device, at least in part, in accordance with information decoded from the scan data, an improvement wherein the program instructions further cause the CPU to:

employ a first technique to examine said scan data for attribute information useful in guiding possible subsequent decoding of the scan data to discern plural-bit steganographic watermark information therefrom; and

employ a second technique to attempt to decode plural-bits of steganographic watermark information from said scan data, said second technique being determined at least in part by said attribute information.

17. (Previously Presented) The scanner of claim 16 wherein the first technique comprises examining a frequency content of said scan data.

18. (Previously Presented) The scanner of claim 16 wherein the first technique comprises examining said scan data to determine texture information.

19. (Previously Presented) In a scanner comprising a multi-element sensor array, a memory, a CPU, and a visual output device, the scanner producing scan data from signals provided from the sensor array, the memory including program instructions causing the CPU to control the visual output device, at least in part, in accordance with information decoded from the scan data, an improvement wherein the program instructions further cause the CPU to:

employ a first technique to identify one or more portions of said scan data that appear most promising for decoding steganographic watermark data therefrom; and

employ a second technique to attempt to decode plural-bits of steganographic watermark information from the scan data, said second technique particularly considering a portion identified by the first technique.

20. (Previously Presented) The scanner of claim 19 wherein the first technique comprises identifying a portion of said scan data that is sampled at a higher sampling rate than other portions.

21. (Previously Presented) In a scanner comprising a multi-element sensor array, a memory, a CPU, and a visual output device, the scanner producing scan data from signals provided from the sensor array, the memory including program instructions causing the CPU to control the visual output device, at least in part, in accordance with information decoded from the scan data, an improvement wherein:

the scanner comprises two spaced-apart multi-element sensor arrays; and

said program instructions cause said CPU to exploit the different views of an object being scanned to improve the decoding of information from said scan data.

22. (Previously Presented) The scanner of claim 21 wherein said program instructions cause the CPU to determine an optically-sensed attribute corresponding to each of the spaced-apart multi-element sensor arrays, and to use said attribute in determining a compensation to be applied to said scan data prior to decoding of the information therefrom.

23. (Previously Presented) The scanner of claim 21 wherein said program instructions cause the CPU to attempt to decode plural-bit steganographic watermark information from said scan data, exploiting said different views.

24. (Previously Presented) The scanner of claim 23 wherein said program instructions cause said CPU to sense calibration signals in scan data corresponding to each of said spaced-apart sensors, to determine a compensation to be applied to said scan

data before attempting to decode the plural-bit steganographic watermark information therefrom.

25 (New) A method of operating a hand-scanner, comprising:

capturing successive line scans of image data using a 1D photosensor array;

remapping said line scans into composite pixel data with uniform scanline spacing; and

decoding watermark data from said composite pixel data.

26. (New) The method of claim 25 in which the scanner also includes a 2D photosensor array, and the method includes processing data from said 2D photosensor array to identify a calibration signal, said calibration signal being useful in determining a scale or rotation parameter for the watermark data.

27. (New) The method of claim 25 in which the scanner also includes a 2D photosensor array, and the method includes processing data from said 2D photosensor array, and applying a filtering function to the composite pixel data based at least in part on a result of said processing.

28. (New) The method of claim 25 in which the scanner also includes a 2D photosensor array, and the method includes processing data from said 2D photosensor array to identify composite pixel data from which watermark data should be decoded.

29. (New) The method of claim 28 that includes identifying composite pixel data that is relatively oversampled.

30. (New) The method of claim 25 in which the scanner also includes first and second 2D photosensor arrays, and the method further includes processing data from the first 2D photosensor array to sense a first calibration feature, processing data from the

second 2D photosensor array to sense a second calibration feature, and applying a compensation to the composite pixel data based at least in part on said sensed calibration features.

31. (New) The method of claim 25 in which the scanner also includes first and second 2D photosensor arrays, and the method further includes processing data from both of said 2D photosensor arrays to identify composite pixel data from which watermark data should be decoded.

32 (New) A method of operating a hand-scanner, the scanner comprising a 1D photosensor array, and two 2D photosensor arrays, the method comprising:

capturing successive line scans of image data using the 1D photosensor array, yielding pixel data with non-uniform scanline spacing;

analyzing said pixel data with non-uniform scanline spacing for watermark data, said analysis using information obtained from the two 2D photosensor arrays.